

ENHANCING ECONOMIC OPPORTUNITY



Alaska Oil & Gas Congress

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OUTLINE

PART I:

History of Oil & Gas Development in Alaska

PART II:

Resource Base & Initiatives

PART III:

Infrastructure Development

PART IV:

Importance of Commercializing NS Gas

HISTORY *of* ALASKA OIL & GAS DEVELOPMENT

Cook Inlet

- Oil discovered at Swanson River in 1955; production began in 1958 and is still ongoing
- Gas discovered at Deep Creek and Kenai Gas field in 1958 and 1959 respectively; still in production
- 43 years of exporting LNG to Japan; have never missed a shipment
 - Only place in the U.S. exporting LNG
- Increase in exploration and activity, but resource basin is depleting

North Slope

- Prudhoe Bay field was discovered in March 1968 and confirmed in 1969; production began in 1977
- Capital and energy shift to the North Slope in the 1970s
- Have been harvesting an incredible resource base for 40 years
- Production peaked in late 1980s at 2.2 million barrels/day
 - But has been steadily declining ever since

OIL & GAS RESOURCES

Cook Inlet

USGS estimates that significant undiscovered volumes of hydrocarbons remain to be found in the Cook Inlet:

- 19 trillion cubic feet of natural gas
- 600 million barrels of oil
- 46 million barrels of natural gas liquids



Compared to most basins, Alaska is relatively underexplored, with 500 exploration wells on the North Slope, compared to Wyoming's 19,000.

North Slope

USGS estimates that Alaska's North Slope has more oil than any other Arctic nation

- **OIL:** Est. 40 billion barrels of conventional oil (*USGS & BOEMRE*)
- **GAS:** Est. 200 trillion cubic feet of conventional natural gas (*USGS*)
- Alaska has world-class unconventional resources, including tens of billions of barrels of heavy oil, shale oil, and viscous oil, and hundreds of trillions of cubic feet of shale gas, tight gas, and gas hydrates

Alaska is one of the few places to explore both conventional and uncoventional resources in the same basin.

2011/2012 LEASE SALES

- COOK INLET, NORTH SLOPE & BEAUFORT SEA

Cook Inlet, 2011 & 2012 Lease Sales

- In June 2011, the state received the highest number of Cook Inlet lease sale bids in 28 years, totaling more than \$11 million
 - Total tracts sold: 109
 - Total high bonus bids: \$11,125,063.80
- In May 2012, Cook Inlet lease sale bids totaled more than \$6.8 million
 - Total tracts sold: 44
 - Total high bonus bids: \$6,865,835



NS & Beaufort Sea, Dec. 2011 Lease Sale

- Received more than 300 bids from more than 15 bidders, totaling more than \$21 million, signifying one of the most successful sales in recent Alaska history
- Included new players targeting shale oil
- Attracted world-class companies such as Shell, ConocoPhillips, and Repsol, who are staking out new positions on state land
- New exploration means jobs now and new production for decades to come
- State needs billions of dollars in new investment to meet the Governor's one-million-barrels-a-day goal

COOK INLET ACTIVITY



WSJ Article, August 27, 2011:

“New Energy Estimate Breathes Life Into a Declining Alaskan Oil Field”

- New players investing: Apache, Hilcorp, Armstrong, Linc, Buccaneer, Nordaq
- Significant exploration and development activity: 10-15 new oil and gas wells, one geothermal exploration well, and companies shooting 3-D seismic over large areas of the basin
- 2 jack-up rigs now present in state waters
- State focused on safe, responsible development and operations
- Competitive price for gas relative to lower 48 markets
- Very competitive fiscal terms for oil & gas production

U.S. EIA - ANNUAL ENERGY OUTLOOK, 2012

“Projected Alaska North Slope oil production at risk beyond 2025 if oil prices drop sharply”

- Two most important determinants of NS oil production and continued operation of TAPS future viability:
 1. Wellhead oil price that NS producers receive
 2. Availability and cost of developing new NS oil resources
- In order for NS fields to be shut down, plugged, and abandoned, two conditions would need to be met:
 1. TAPS throughput at or below 350,000 barrels/day
 2. Total NS oil production revenues at or below \$5 billion/year
- Shutdown of NS oil production before 2035 projected only in Low Oil Price case—TAPS throughput and NS oil revenues falling below the 350,000 barrels/day and \$5 billion/year thresholds, respectively, in 2026.

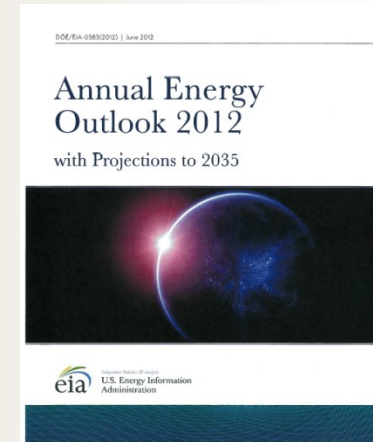
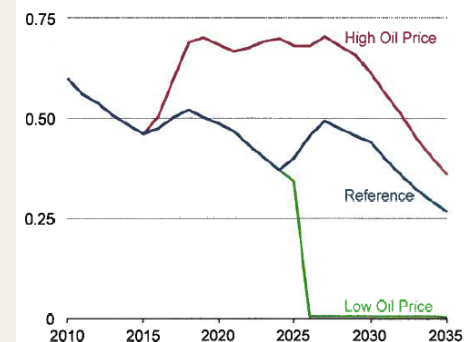


Figure 52. Alaska North Slope oil production in three cases, 2010-2035 (million barrels per day)



STATE NEEDS *to* ENHANCE ECONOMIC OPPORTUNITY

- In order to move beyond limits created by restraints of current infrastructure, we need to enhance the economic opportunities presented to us
- While the effort to reform our tax structure is important, those benefits will only take us so far
- To truly incentivize exploration for oil, we must find a way to commercialize North Slope gas
 - Robust infrastructure
 - Reasonable terms of access for others
- Discovery of gas needs to be a key benefit, not a drag



SECURE ALASKA'S FUTURE—*OIL*

Objective:

*The State of Alaska's
Comprehensive Strategy
to Increase TAPS
Throughput to One
Million Barrels/Day*

- I. Enhance Alaska's global competitiveness and investment climate
- II. Ensure the permitting process is structured and efficient
- III. Facilitate and incentivize the next phases of North Slope development
- IV. Unlock Alaska's full resource development potential through partnerships with key stakeholders
- V. Promote Alaska's resources and positive investment climate to world markets



NEXT PHASES & NEW AREAS *of* EXPLORATION *on* NORTH SLOPE

- Shale oil exploration – ongoing
 - July 31st conference in Anchorage on Shale Oil
- Additional shale oil players investing
- Private equity investment taking root
 - Great Bear/Riverstone/Haliburton shale play
- Shell exploration appears likely—finally
 - Demonstrates the need for comprehensive federal regulatory overall
- Eastern North Slope open, PT settled
- New players, operators and exploration on state land
 - Shell, Repsol, Brooks Range, Great Bear, Savant
 - Exxon Mobil, Conoco Phillips
- Other unconventional; viscous oil at Milne Point; DOE & gas hydrates

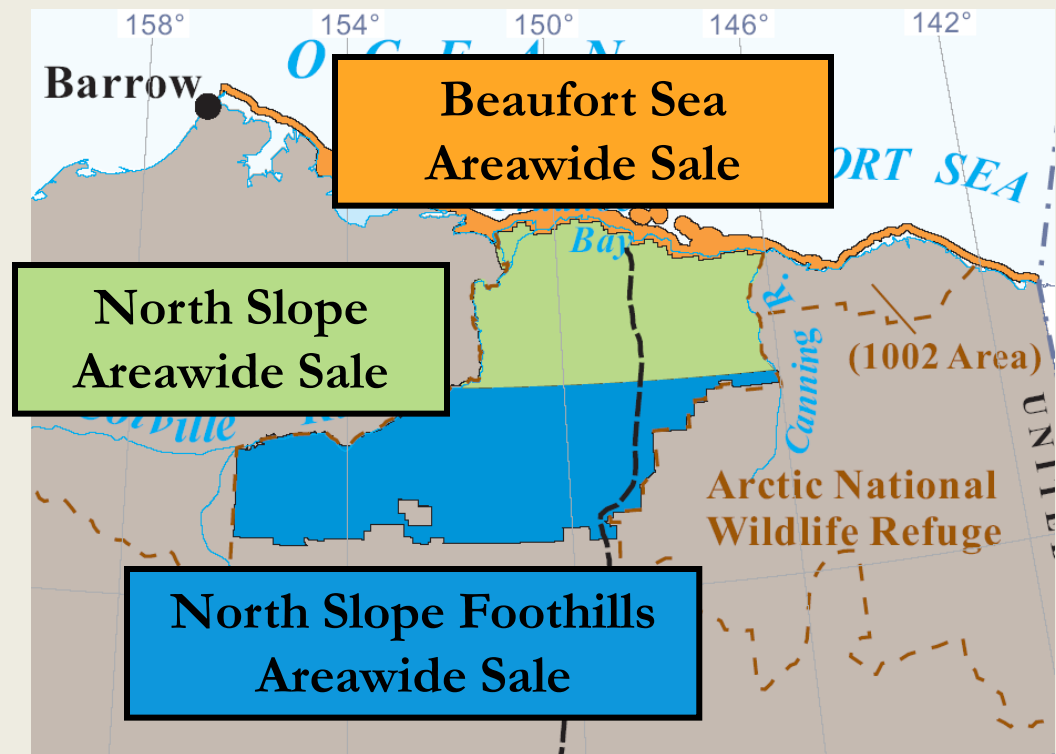
NORTH SLOPE INFRASTRUCTURE ANCHORS DEVELOPMENT

- Infrastructure development at Prudhoe Bay has led to expansion to Kuparuk and Alpine
- But there is a need to expand to the east and west
 - East: Point Thomson Record of Decision is due within the next few weeks; the liquid line to be constructed from the Badami Field to Point Thomson will lead to further opportunity for exploration and production from the eastern North Slope
 - West: Resolution of CD-5 should lead to infrastructure development west of the Colville River; NPR-A lease sales have potential as well, with support of federal government

2012 UPCOMING LEASE SALE

- NORTH SLOPE, NORTH SLOPE FOOTHILLS & BEAUFORT SEA

- Annual sale of oil and gas lease tracts in Beaufort Sea, North Slope, and North Slope Foothills will take place on **November 7, 2012**, in Anchorage
- Encompasses 14.7 million acres (the size of Massachusetts, Vermont and Connecticut combined)
- Will include tracts adjacent to federal acreage, including lands nominated for inclusion in the NPR-A lease sale, which is also tentatively scheduled for late 2012



WORKING TOGETHER *to* PROMOTE RESPONSIBLE RESOURCE DEVELOPMENT

- Alaska remains a world-class resource basin that is relatively underexplored
- Alaska has both conventional and unconventional resource opportunities
- State of Alaska has developed—and is implementing—comprehensive strategies to increase exploration and development, enhance the investment climate, reform and modernize our permitting processes, and commercialize natural gas resources
- There is significant oil and gas in Alaska, but it only scratches the surface of our state's potential and investment opportunities here

